Web Design Essentials

This course, which is designed as the first level of Web Design, will teach students workplace and leadership skills for advancement into the Web Design Application course. Keying and layout and design skills are essential. Students will develop Internet research techniques for business; acquire navigation mapping skills; effectively use a Web site; study fundamental concepts of digital commerce transaction security; examine related social, legal and ethical issues; study electronic financial management practices, and integrate the elements of Web Design.

Web Design Essentials focuses on the language, structure, and essential concepts and principles of page layout and design and the ethics related to the production of Internet presentations. Typography layout, and design guidelines will be applied in the design of Web pages. Upon completion of the course, a student will be able to evaluate, implement and apply the use of technology in Digital Commerce and Web Page Design for business.

This course requires a computerized workstation for each student with Internet access, markup language software and any Commercial Off-The-Shelf (COTS) Web Design Software.

Recommended Prerequisites: Keyboarding, Computer Applications

Suggested Prerequisite or Concurrent with: Interactive Multimedia Presentation, *eBusiness* Communication Systems

Grades: 10, 11, 12

Recommended Credit: 1 Credit

Standard 1.0

Demonstrate knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web.

Standard 2.0

Evaluate the use and effectiveness of various types of Web technologies—as evolving media—from a business and communication perspective.

Standard 3.0

Demonstrate an awareness of the social, legal, ethical, safety, and personal issues in conjunction with Web design, the Internet, and the World Wide Web.

Standard 4.0

Demonstrate the ability to manipulate Web page markup language text, graphics, hyperlinks, tables, forms, and multimedia according to W3C (World Wide Web Consortium) standards.

Standard 5.0

Develop a basic Web site using markup language, graphics, hyperlinks, tables, forms and multimedia.

Standard 6.0

Incorporate the use of cascading style sheets within a Web site.

Standard 7.0

Explore the changing dynamics of markup language.

Standard 8.0

Examine characteristics, components and functions of basic networks.

Standard 9.0

Demonstrate proficiency with the basic features and utilities available with commercial off-the-shelf (COTS) Web building software.

Standard: 10.0

Apply the appropriate process and technique to create a basic animation.

Standard: 11.0

Demonstrate techniques used for graphic enhancement.

Standard: 12.0

Evaluate commercial Web site publishing, compare various domain hosting services, and analyze the current market rates for hosting and maintenance of the site.

Standard 13.0

Design and present a basic Web project incorporating all standards in the Web Design Essentials course.

Standard 14.0

Demonstrate human relations, communication, organizational, time management, and professional leadership skills.

Course Description:

This course, which is designed as the first level of Web Design, will teach students workplace and leadership skills for advancement into the Web Design Application course. Keying and layout and design skills are essential. Students will develop Internet research techniques for business; acquire navigation mapping skills; effectively use a Web site; study fundamental concepts of digital commerce transaction security; examine related social, legal and ethical issues; study electronic financial management practices and integrate the elements of Web Design.

Web Design Essentials focuses on the language, structure, and essential concepts and principles of page layout and design and the ethics related to the production of Internet presentations. Typography, layout, and design guidelines will be applied in the design of Web pages. Upon completion of the course, a student will be able to evaluate, implement and apply the use of technology in Digital Commerce and Web Page Design for business.

This course requires a computerized workstation with Internet access for each student and any Commercial Off The Shelf (COTS) Web Design Software.

Standard 1.0

Demonstrate knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web.

Learning Expectations

The student will:

1.1   Illustrate the relationship of Webrelated terms to Web design and software applications.

1.2   Navigate successfully between uniform resource locator links.

1.3   Evaluate and apply standard path/file name structure.

1.4   Research new technologies.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Analyzes vocabulary words and acronyms that are unique to the World Wide Web.

- Applies terms during conversation associated with the World Wide Web and markup languages.

- Sets up and uses common Web browsing software to navigate the Internet.

- Illustrates the use of search engines and search terms.

- Studies and evaluates current technologies used in Web site construction.

Sample Performance Task

- Evaluate methods used or actions taken to design Web sites and assign the appropriate term.

- Comprehend and discuss the difference between File Transfer Protocol and HyperText Transfer Protocol.

- Identify new changes in technology. Provide descriptions of changes or evolution.

Integration/Linkages

Language Arts Gateway English Standards I, II, III, IV, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills),* National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, and Industry Standards

Standard 2.0

> Evaluate the use and effectiveness of various types of Web technologies—as evolving new media—from a business and communication perspective.

Learning Expectations

The student will:

2.1　Identify and evaluate current uses of the Internet for business and communication.
2.2　Analyze the advantages and disadvantages of electronic commerce as a business tool.
2.3　Assess different approaches to electronic commerce.
2.4　Analyze the changing nature of business.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Analyzes current uses of the Internet for business, communication, and collaboration.
- Evaluates the benefits and risks of electronic commerce to businesses and individuals.
- Accesses the Internet and determines the types of companies which use electronic commerce.
- Explains the changing nature of business (inventory, buying, and selling).

Sample Performance Task

> Use the Internet to research and compare financial, educational, government, commercial, social, entertainment, agricultural, and technology Web sites.

Integration/Linkages

> Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 3.0

> Demonstrate an awareness of the social, legal, ethical, safety, and personal issues in conjunction with Web design, the Internet, and the World Wide Web.

Learning Expectations

The student will:

3.1 Evaluate the concepts of ethics and integrity as related to the business environment.
3.2 Balance employee privacy rights with employer obligations to provide a safe working and professional environment.
3.3 Demonstrate proper etiquette and knowledge of acceptable use policies when using networks, the Internet, and an intranet.
3.4 Model respect of electronic property when manipulating, morphing, or editing graphics, video, text and sound.
3.5 Examine copyright laws and issues.
3.6 Model the ethical acquisition and use of digital information; practice established methods to cite sources.
3.7 Assess electronic commerce Web security, including secure sockets layer, Hypertext Transfer Protocol Secure, encryption key, digital certificate, spoofing, firewall, digital cash, and smart cards.
3.8 Discuss threats to personal safety and welfare in use of the World Wide Web and related technologies.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Explains the importance of ethics/integrity as it relates to electronic commerce.
- Debates the issues related to Internet etiquette and their relationship to business.
- Researches, compares, and contrasts the importance of privacy rights, laws, and security protocols in electronic commerce.
- Investigates and reports on strategies for personal safety and protection in use of the World Wide Web and related technologies.

Sample Performance Tasks

- Students will research a business that provides a *free* service, a business that provides a fee service, and a business that provides both free *and fee* services. Determine if the business has a privacy statement and then record the information. If the business is accredited by an agency that evaluates online businesses, visit the accreditation sites, read and record the information on their services including any costs.

- Participate in a class discussion about the importance of personal safety and welfare in electronic forums (Internet, intranets, e-mail, etc.).

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard: 4.0

Demonstrate the ability to manipulate Web page markup language text, graphics, hyperlinks, tables, forms, and multimedia according to W3C (World Wide Web Consortium) standards.

Learning Expectations

The student will:

4.1 Manipulate markup language tags, according to W3C standards, to produce text, graphics, hyperlinks, tables, forms, and multimedia on a Web page.
4.2 Format text, graphics, hyperlinks, tables, forms, and multimedia using the appropriate markup language tags and Web design techniques to enhance the look of a Web page.
4.3 Analyze the use of graphic images in Web Design.
4.4 Insert inline graphics, resize graphics, create graphic links, and set hot spots using markup language tags.
4.5 Insert multimedia files, including MIDI, MP3, and video streaming using markup language tags.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Uses markup language tags and proper design techniques to create, and format, Web page features including the following:
  a. Paragraphs
  b. Ordered and unordered lists
  c. Tables
  d. Special characters
  e. Hyperlinks to bookmarks within one page, hyperlinks to another Web page within the same site, and hyperlinks to a Web page outside that site
  f. Graphics, including attributes to align and resize graphics appropriately on the Web page.
  g. Forms with text boxes, radio buttons, checkboxes, scroll boxes, and pull-down menus
  h. Multimedia, including sound and video
- Validate markup code according to W3C standards.
- Assesses and provides an example of each of the types of Web friendly graphic images.
- Configures the Web browser to work with plug-ins and add-ins to integrate multimedia files into the Web page.

Sample Performance Task

Enter markup language tags into a text editor to create Web pages that include text, graphics, hyperlinks, tables, forms, and multimedia formatted according to proper Web design techniques. Include a questionnaire form that others can answer online, store the data, and then report on the results. Open the markup language file in a browser; make corrections needed to view the page as intended.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 5.0

Develop a basic Web site using markup language, graphics, hyperlinks, tables, forms, and multimedia.

Learning Expectations

The student will:

5.1 Develop a story board and organize an appropriate file structure for a Web site.
5.2 Create a basic Web site using markup language, including graphics, hyperlinks, tables, forms, and multimedia.
5.3 Evaluate the elements of the Web site for design effectiveness.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Designs a Web site using the components of design audience appeal, content, accessibility and user convenience.
- Evaluates the components for developing a Web site.

Sample Performance Task

Create a personal Web site using markup language. View the Web site in multiple browsers to compare how each one renders.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 6.0

Incorporate use of cascading style sheets within a Web site.

Learning Expectations

The student will:

6.1 Understand and apply the structure of a Cascading Style Sheet (CSS) rule.
6.2 Analyze the differences between inline, embedded, external, and imported styles.
6.3 Evaluate the benefits of using CSS to format Web pages.
6.4 Apply basic CSS styles to a Web page.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Creates inline styles and an embedded style sheet to format a Web page.

- Links a Web page to an external style sheet.

- Evaluates the benefits of using CSS to format Web pages.

Sample Performance Task

Add new, unformatted pages to the previously created personal Website. Create and attach CSS to the new mark-up language documents.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills),* National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 7.0

Explore the changing dynamics of markup languages.

Learning Expectation

The student will:

7.1   Explore the history of changing aspects of markup languages, such as SGML, HTML, XHTML, DHTML and Structuring Data with XML.
7.2   Increase Web site traffic through the use of Internet browsers and search engines.
7.3   Incorporate the use of dynamic features.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Browses the Internet to investigate the evolution of markup languages, such as SGML, HTML, XHTML, DHTML, and Structuring Data with XML.
- Links/registers a site to other servers/sites.
- Experiments with the use of the new/dynamic tags by replacing the markup language tags (example HTML) in a previously created Web document with DHTML/XML/other newly developed tags to further enhance or create new features on the page.

Sample Performance Task:

Students will use a dynamic feature and existing markup language file to make their pages accessible to additional people.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 8.0

Examine characteristics, components, and functions of basic network designs.

Learning Expectations

The student will:
8.1   Illustrate how computers are connected (both wireless and physical) to form a local area network (LAN).
8.2   Differentiate between peer-to-peer and server-based networks.
8.3   Examine considerations involved in implementing servers in peer-to-peer and server-based networks.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Analyzes characteristics and components of a local area network (LAN).
    - Peer to peer network
    - Server-based network
- Analyzes server functions

- Design a schematic for a peer-to-peer network and a server-based network system and illustrate the function for the server on each schematic.

Sample Performance Task

Draw a schematic for a peer-to-peer network and a server-based network. Describe the differences between the two types of networks.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 9.0

> Demonstrate proficiency with the basic features and utilities available with commercial off-the-shelf (COTS) Web building software.

Learning Expectation

The student will:

9.1 Evaluate commercial of-the-shelf products.
9.2 Demonstrate familiarity with features of Web publishing packages that use graphical user interfaces (GUI editors).
9.3 Use commercial off-the-shelf Web building software to create Web page.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Develops Web pages using COTS products.
- Differentiates between COTS limitations and abilities.
- Analyzes the function of markup language skills in development of Web pages with COTS software and utilizes the two skills collectively.
- Construct a Web page with a COTS product.
- Use HTML scripting abilities from previous lessons to modify the constructed page in those areas that COTS would not perform.

Sample Performance Task

> Construct several Web pages with COTS products; assess the abilities and limitations of each product; use HTML scripting abilities from previous lessons to modify the constructed pages.

Integration/Linkages

> Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 10.0

Apply the appropriate process and technique to create animation.

Learning Expectations

The student will:

10.1   Evaluate basic animation creation.
10.2   Analyze the application of appropriate background color for use in animation creation.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Constructs basic animations.
- Selects the appropriate color or transparency for use with animation on the Web page.

Sample Performance Task

- Construct a basic animation sequence.
- Illustrate variations using background color and transparency.

Integration/Linkages:

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 11.0

Demonstrate techniques used for graphic enhancement.

Learning Expectations

The student will:

11.1   Demonstrate procedure to sharpen image quality.
11.2   Evaluate techniques to replace photo background.
11.3   Analyze blurring techniques to hide photo imperfections.
11.4   Demonstrate cropping procedures of photo dead space.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Given a photo image, uses techniques available to sharpen image quality.
- Changes out a photo's background and blurs imperfections in the background.
- Masks imperfections in a photo.
- Crops photos to eliminate dead space.

Sample Performance Task

- Perform the procedures used to sharpen photo quality and enhance colors using Web-safe color schemes.
- Illustrate the techniques used to swap out photo backgrounds.
- Demonstrate blurring techniques to mask photo imperfections.
- Identify photo dead space and crop photos.
- Present work to the class.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, Policies Commission for Business and Economic Education

Standard 12.0

Evaluate commercial Web site publishing, compare various domain hosting services, and analyze the current market rates for hosting and maintenance of the site.

Learning Expectations

The student will:

12.1	Evaluate commercial domain hosting services.
12.2	Distinguish between and evaluate different search engines.
12.3	Evaluate the concepts of domain name hosting, transfer, parking, registration, and sub hosting.
12.4	Employ the use of Meta-tags to enhance and optimize commercial Web site publishing.
12.5	Analyze various services offered by Internet hosting services.
12.6	Distinguish between services offered by commercial domain hosting services and their costs.
12.7	Analyze various services offered by Internet Web site design services.
12.8	Distinguish between services offered and costs by a commercial Web site design service.
12.9	Analyze the cost of host Internet connection and equipment required for hosting and maintenance.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Analyzes commercial domain name hosting services, current market rates, and reports findings.
- Differentiates between hosting, sub hosting, and domain transfer, parking, and registration.
- Distinguishes between user-input engines, and those that make use of Meta-tag names.
- Researches and compares various Internet hosting services and contracts.
- Accesses and compares various Internet Web site design services.
- Evaluates hardware, operating system/platform and the software needed to set up and maintain an Internet connection and Internet Web server.

Sample Performance Task

- Perform a cost and service analysis of commercial hosting services.
- Compare market rates for hosting, sub hosting and domain transfer, parking, and registration among different services.
- Access, compare, and contrast five commercial Internet Domain Hosting services. Perform a cost analysis between services offered, and determine what the host provides with that service. Report the current market prices for services available. Chart findings from the research. Choose the best

commercial service available based on cost-for-service. Develop a
presentation to show findings and share with the group.

- Assess and compare five commercial Internet hosting services. Research
the type of hardware, operating systems/platforms used and their
connection type. Perform a cost analysis between site equipment
configuration.

Integration/Linkages:

Language Arts, Mathematics, Computer Science, W3C Users Interface domain,
SCANS (The Secretary's Commission on Achieving Necessary Skills), National
Standards for Business Education, Policy Commission for Business and
Economic Education, Future Business Leaders of America, Delta Pi Epsilon,
National Educational Technology Standards, Industry Standards, Policies
Commission for Business and Economic Education

Standard 13.0

Design and present a basic Web project incorporating all standards in the Web Design Essentials course.

Learning Expectations

The student will:

13.1   Demonstrate the ability to design a basic Web site
13.2   Produce, test, and deploy a working Web site onto a live Web server.
13.3   Manage files locally and on a Web server.

Student Performance Indicators: Evidence Standard Is Met

The student:

- Successfully completes and presents a working Web site in accordance with the standards of Web Design Essentials.

Sample Performance Task

Students present to local business community a fully-functioning online commercial site. Examples of sites can be developed for small businesses, community organizations, schools, electronic portfolio, and e-commerce Web site for a name brand item.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, or Future Business Leaders Of America Chapter Handbook, Policies Commission for Business and Economic Education

Standard 14.0

Demonstrate human relations, communication, organizational, time management, and professional leadership skills.

Learning Expectations

The student will:

14.1   Demonstrate self-initiative through group projects.
14.2   Examine the value of leadership skills.
14.3   Illustrate image-building and public relations techniques.
14.4   Assess decision-making skills.
14.5   Demonstrate effective teamwork and critical analysis applying conflict resolution techniques.
14.6   Examine the value of leadership skills and confidence through personal reflection.
14.7   Demonstrate parliamentary procedure skills through team activities.
14.8   Analyze the goals and apply the principles of Future Business Leaders of America.

Student Performance Indicators: Evidence Standard is Met

The student:

🔹   Formulates project management guidelines for effectively communicating information to members of a Web site development team, some of whom have no technical expertise.
🔹   Collaborates and illustrates team-building skills.
🔹   Develops a timeline for meeting a project deadline.
🔹   Demonstrates parliamentary procedure skills through team activities.
🔹   Makes a two-minute report on an assigned Web design topic.
🔹   Participates in Future Business Leaders of America-related activities.

Sample Performance Task

🔹   Design and prepare layout for a membership recruitment bulletin for the Future Business Leaders of America that is appropriate for the school Web page.
🔹   Develop (or add to an existing) Future Business Leaders of America Web page; incorporate the latest developments in HTML/XHTML/other markup language to make a dynamic site or page with multiple graphics, hot spots and links to other educationally related sites. The site should include links to meeting minutes, leadership sites, officers, e-mail and related leadership materials. The site should support links to resources such as the Tennessee Department of Education, Business and Information Technology Careers and the national organization(s) of Future Business Leaders of America.
🔹   Add product listings to your chapter Web page.

Integration/Linkages

Language Arts, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, Industry Standards, or Future Business Leaders Of America Chapter Handbook, Policies Commission for Business and Economic Education

Web Design Applications

This course, which is a project-based continuation of Web Design Essentials, teaches students work-related skills for advancement into post-secondary education and/or the workplace. The course will provide the concepts and applications that may lead to business industry certification. Course content includes exposure to advanced Web design, graphics, animations, and the complex site design. The course content provides students the opportunity to acquire advanced skills in both theory and practical application of Web design and of leadership and interpersonal skill development.

This course requires a computerized workstation for each student with Internet access, markup language software and any Commercial Off-The-Shelf (COTS) Web Design Software.

Recommended Prerequisite: Web Design Essentials

Grades: 11, 12

Recommended Credit: 1 credit

Standard 1.0

>Demonstrate an advanced knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web.

Standard 2.0
Apply knowledge of social, legal, ethical, safety, and personal issues in product
>development.

Standard 3.0

>Identify career opportunities and industry certifications in Web Design.

Standard 4.0

>Demonstrate advanced proficiency with the features and utilities available with commercial off-the-shelf (COTS) Web building software, such as templates, rollover images, and internal hyperlinks.

Standard 5.0

>Use COTS tools to manage the development, maintenance, and evolution of a Web site.

Standard 6.0

>Use CSS IDs and classes for layout and positioning on pages in a Web site.

Standard 7.0

>Create, export, and embed a complex animation within a Web site.

Standard 8.0

>Enhance a Web site with sound, graphics, and video.

Standard 9.0

>Evaluate interactive forms within a Web site using Database Integration and CGI.

Standard 10.0

>Analyze the use of JavaScript and applets in Web site development.

Standard 11.0

Incorporate audience usability and accessibility in the development of a Web site.

Standard 12.0

The student will develop and demonstrate human relations, self-management, organizational, and professional leadership skills.

Standard 13.0*

The student will individually advance toward expert level in a related technological area of choice. (Optional for obtaining 1 extra credit)

Standard 1.0

The Student will demonstrate an advanced knowledge of the Internet and various terms, tools, and utilities associated with the World Wide Web.

Learning Expectations

The student will:

1.1 Demonstrate the relationship of Web design terms to Web designs and software applications.
1.2 Compare and contrast the various types of tools used for file navigation, organization, and movement.
1.3 Analyze the process of selecting a site name.
1.4 Research new and emerging technologies.

Student Performance Indicators: Evidence Standard is Met

The student:

- Analyzes vocabulary words and acronyms that are unique to the World Wide Web.

- Applies terms during conversation associated with the World Wide Web and markup languages.

- Evaluates and compares file management programs and transfer utilities.

- Uses file compression software and techniques such as Zip/WinZip, Gzip, Bzip2, or RAR to transfer documents.

- Examines the process of obtaining a Web site name.

- Studies and evaluates Web site technologies used in Web site construction.

Sample Performance Task

- Plan and propose a new Web site to a potential customer using the appropriate terminology.

- Use a checklist to compare and contrast file management programs and file transfer utilities.

- Identify new changes in technology. Provide descriptions of changes or evolution.

Integration/Linkages

Language Arts Gateway English Standards I, II, III, IV, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills),* National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, and Industry Standards

Standard 2.0

> The student will research and apply knowledge of social, legal, ethical, safety, and personal issues within the industry.

Learning Expectations

The student will:

2.1   Apply work ethics including integrity, honesty, loyalty, and perseverance that meet industry standards.
2.2   Research legal responsibilities associated with the use of the Internet as required by federal and state governmental agencies.
2.3   Apply copyright laws and their applications to text, visual art, design, music, and photography in Web design and creation.
2.4   Discuss threats to personal safety and welfare in use of the World Wide Web and related technologies.

Student Performance Indicators: Evidence Standard is Met
The student:

- Applies ethical conduct providing the proper credit to those whose ideas and content has been used in creating interactive multimedia projects, photographs, and music.
- Demonstrates legal and ethical behaviors in what is written, spoken, or presented in designing and presenting a multimedia project.
- Applies knowledge of copyrights in seeking formal permission from copyright sources before using materials.
- Recognizes the legal implications of violating federal and state laws in multimedia/digital publishing.
- Investigates and reports on strategies for personal safety and protection in use of the World Wide Web and related technologies.

Sample Performance Task
- Design and produce a Web site that includes content where formal permission for use of quotations, photographs, design, and music has been obtained.

- Participate in a class discussion about the importance of personal safety and welfare in electronic forums (Internet, intranets, e-mail, etc.).

Integration/Linkages

Language Arts Gateway English Standards I, II, III, IV, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills),* National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, and Industry Standards

Standard 3.0

Identify career opportunities and industry certifications in Web Design.

Learning Expectations

The student will:

    3.1   Research career opportunities in the Web Design field.
    3.2   Describe the benefits of obtaining industry certifications.
    3.3   Evaluate industry certifications in the Web Design field.

Student Performance Indicators: Evidence Standard is Met

The student:

- Prepares a Web page discussing at least 10 jobs in the Web Design field, including nature of the work, training, outlook, and earnings.

- Role-plays an applicant to three existing technical companies that desire applicants with industry certifications and convey the value of this expertise to the potential employer.

- Examines three different certifications available in the Web Design field.

Sample Performance Task
- Prepare a written report discussing at least five Web Design jobs including nature of the work, training, outlook and earnings.
- Prepare a written report discussing the importance of industry certifications.
- Discuss the findings of both reports with the other members of the class.

Integration/Linkages

Language Arts Gateway English Standards I, II, III, IV, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills),* National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, and Industry Standards

Standard 4.0

> Demonstrate advanced proficiency with the features and utilities available with commercial off-the-shelf (COTS) Web-building software, such as templates, rollover images, and internal hyperlinks.

Learning Expectations

The student will:

4.1   Review the basic features and utilities available with COTS software.
4.2   Create and apply page and site templates using COTS software.
4.3   Add interactivity to a Web page using buttons with rollover images.
4.4   Improve Web page navigation by inserting internal hyperlinks.

Student Performance Indicators: Evidence Standard is Met

The student:

- Designs and constructs a template with non-editable regions, including areas for a banner/logo, navigation bar, and an editable region for the main content of the Web page.

- Applies a template to a group of Web pages.

- Utilizes buttons with rollover images to enhance a Web page.

- Includes internal hyperlinks on a Web page to improve navigation.

Sample Performance Task

- Use the reports discussing Web Design jobs (previously created) to create an outline of a six-page Web site.
- Create a template to apply to this group of Web pages.
- Use the template to create each page detailed in the outline.
- Edit a Web site to include rollover images and internal hyperlinks to improve navigation.

Integration/Linkages

> Language Arts Gateway English Standards I, II, III, IV, Mathematics, Computer Science, W3C Users Interface domain, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, Future Business Leaders of America, Delta Pi Epsilon, National Educational Technology Standards, and Industry Standards

Standard 5.0

Use COTS tools to manage the development, maintenance and evolution of Web site.

Learning Expectations

The student will:
5.1   Analyze principles of typography.
5.2   Analyze layout principles.
5.3   Analyze principles of design.
5.4   Analyze composition concepts.
5.5   Apply typography, layout, design, and composition concepts in developing a Web site.
5.6   Demonstrate the use of COTS maintenance tools to check spelling, links, and other reports to verify that a Web site is ready for upload to the Internet

Student Performance Indicators: Evidence Standard is Met

The student:
- Designs and assembles a Web site (five-page minimum) that incorporates the use of typography, layout, design, and composition techniques.
- Prepares the Web site for uploading to the Internet by checking spelling, grammar, and links.
- Prepares the Web site for uploading to the Internet by running site reports to check for validation, browser compatibility, and unnecessary markup.

Sample Performance Task
- Apply typography, layout, design, and composition techniques to a Web site that has been previously created in this course.
- Verify that each Website created is ready for upload to the Internet by checking spelling, grammar, links, validation and browser compatibility.

Integration/Linkages

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Standard 6.0

Use CSS IDs and classes for layout and positioning on pages in a Web site.

Learning Expectations

The student will:

6.1   Review the process and purpose of creating Cascading Style Sheets.
6.2   Define and understand the function of an ID.
6.3   Define and understand the function of a class.
6.4   Designs the layout of a Web page using CSS sizing elements such as width and height.
6.5   Use CSS-positioning styles to modify the layout of a Web page.

Student Performance Indicators: Evidence Standard is Met

The student:

- Recognizes the syntax used for basic inline and external style sheets.

- Experiments with the different uses of IDs and classes on a Webpage.

- Builds a Web page using CSS sizing elements.

- Applies an external style sheet with CSS-positioning to each page in a Web site.

- Complete a Web page that incorporates the use of CSS IDs and classes.

Sample Performance Task

- Complete several practice Web pages that incorporate the use of CSS IDs and classes.
- Modify the layout of several practice Web pages using CSS sizing elements and positioning styles.
- Create a website (minimum four-pages) that includes advanced features of CSS that are discussed in this standard.

Integration/Linkages

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Standard 7.0

Create, export, and embed a complex animation within a Web site.

Learning Expectations

The student will:

7.1 Review the process of creating components of a basic animation, including drawing tools, frame-by-frame animations, and tweened animations.
7.2 Apply a motion guide to a tweened animation to move an object along a specific path.
7.3 Create a mask to hide and reveal a selected area of the animation.
7.4 Organize the timeline with scenes and add sound to the animation.
7.5 Examine the benefits of using basic and advanced scripting with an animation.
7.6 Design rollover effects by editing each state of a button.
7.7 Assemble an advanced animation and embed it within a Web site.

Student Performance Indicators: Evidence Standard is Met

The student:

🔸 Constructs a basic animation that includes objects animated with frame-by-frame and tweened animations.

🔸 Adds advanced features such as a motion guide, a mask, and an audio clip to the basic animation.

🔸 Organizes an animation with scenes and creates buttons with rollover effects.

🔸 Inserts basic scripting functions, such as play, stop, and goto.

🔸 Compares the use of animations that incorporate advanced scripting functions on 3-5 Web pages.

🔸 Creates an advanced animation and embeds it on a Web page.

Sample Performance Tasks

🔸 Create several practice animations that include tweening, motion guides, masks and audio.
🔸 Create buttons with rollover effects for use on a previous Website created in class.
🔸 Create a frame-by-frame animation that includes a stick figure performing various tasks such as running, jumping, or interacting with other objects.
🔸 Find and reproduce an advertisement on the Internet that involves the

use of advanced scripting functions.

⬥ Embed the advertisement on a Web page previously created.

Integration/Linkages

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Standard 8.0

Enhance a Web site with sound, graphics and video.

Learning Expectations

The student will:

8.1   Embed sound files in a Web page.
8.2   Embed graphic files in a Web page.
8.3   Embed video files in a Web page.

Student Performance Indicators: Evidence Standard is met

The student:

- Selects and embeds the appropriate multimedia sound file format for different types of Web design projects.

- Selects and embeds the appropriate graphic file format for different types of Web design projects.

- Resizes graphical images in percentage of the page size.

- Selects and embeds the appropriate multimedia video file format for different types of Web design projects.

- Designs a Web site that includes sound clips, animations, and/or video produced by students.

Sample Performance Task

- Create a custom sound to include on a Web page.
- Use a digital camera to collect various pictures of the school and prepare these pictures for embedding on a Web page.

Integration/Linkages

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Standard 9.0

Evaluate interactive forms within a Web site using Database Integration and CGI.

Learning Expectations

The student will:

9.1   Evaluate the usefulness of CGI.

9.2   Differentiate the different Common Gateway Interface (CGI) methods.

9.3   Evaluate the potential of database queries.

9.4   Identify database technologies applicable to Web sites.

9.5   Construct forms that accept and process user input using CGI.

Student Performance Indicators: Evidence Standard is Met

The student:

- Researches the advantages of CGI use in Web servers.
- Define Common Gateway Interface (CGI) methods including, Net, JavaServer Pages (JSP), Server-Side JavaScript (SSJS), Active Server pages (ASP), and PHP Hypertext Preprocessor (PHP).
- Discuss common database queries and how they relate to Web forms.
- Define database connectivity technologies, including Open Database Connectivity (ODBC) and Java Database Connectivity (JDBC).
- Create a form utilizing HTML/XHTML/other markup language or COTS.

Sample Performance Task

Assume you are hired by the local electronics shop to create an online form which captures warranty information. Construct a form that gathers the appropriate information. Identify an appropriate CGI method to use and associate form fields to corresponding database fields.

Integration/Linkages

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Standard 10.0
   Analyze the use of JavaScript and applets in Web site development.

Learning Expectations

The student will:

   10.1 Embed ActiveX and Java into a Web page.

   10.2 Distinguish between a JAVA application and a JAVA applet.
   10.2 Use JavaScript to detect Web browser types.
   10.3 Evaluate the relevance of cookies to JavaScript and to a successful Web site.

Student Performance Indicators: Evidence Standard is Met
The student:

   * Performs procedures necessary to embed ActiveX and Java.
   * Explains the difference between a JAVA applet and a JAVA application.
   * Identifies the benefits of using JavaScript to detect Web browser type.
   * Comprehends and explains the relationship of cookies to JavaScript.
   * Embeds ActiveX and Java elements into existing Web documents.

Sample Performance Tasks
   * Discuss the difference between JAVA applets and applications.
   * Use JavaScript to detect current web browser type.
   * Brainstorm how cookies interact with the functionality of JavaScript.

Integration/Linkages

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Standard 11.0

Incorporate audience usability and accessibility in the development of a Web site.

Learning Expectations

The student will:
11.1 Incorporate basic levels of accessibility and sensitivity in created web pages.
11.2 Incorporate various Web site design requirements, such as might be specified by a customer or employer.

Student Performance Indicators: Evidence Standard is Met

The student:

- Identifies the basic accessibility features expected of Web pages, as described by W3C Web Accessibility Initiative (WAI), U.S. Government Section 508, Americans with Disabilities Act (ADA).
- Demonstrates sensitivity to ethnic and cultural issues in page layout and design.
- Examines the main disability categories which affect an individual's ability to participate in the Web community.
- Compares the adaptive technologies currently available to aid accessibility to the Web.
- Verifies Web site usability, viewability, and browser compatibility.
- Develops a Web page that meets usability and accessibility requirements.

Sample Performance Task

- Lists the WAI guidelines for Web designers and explains the difference in priority scores.
- Verifies compliance of web pages with government and industry accessibility standards.
- Researches audience usability concerns.
- Maps a Web site to audience and employer expectations.

Integration/Linkages

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Standard 12.0

   Identify Web site security issues.

Learning Expectations

The student will:
   12.1   Describe the purpose of encryption.
   12.2   Understand client and enterprise-level security issues.
   12.3   Contrast personal privacy issues versus employer's rights to regulate
          computing resources.

Student Performance Indicators: Evidence Standard is Met

The student:

   +   Defines the three major types of encryption.
   +   Distinguishes between symmetric, asymmetric and hash encryption.
   +   Defines authentication principles such as passwords.
   +   Analyzes the operation of firewalls.
   +   Identifies and discusses the issues and concerns regarding the
       appropriate use of employer computer systems and individual
       expectations of privacy on those systems.

Sample Performance Task

   +   Construct a table explaining the major types of encryption and the
       protocols that accompany them.

   +   Evaluate the use of authentication principles and compare two or more
       company policies dealing with authentication.

   +   Compare and contrast the various types of firewalls available.

Integration/Linkages

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Standard 13.0*

The student will individually advance toward expert level in a related technological area of choice. (Optional for obtaining 1 extra credit)

(Students must master all of the competencies in Standards 1-12 and are expected to achieve at least one industry certification in order to achieve this optional credit.)

Learning Expectations

The student will:
13.1   Determine an area in the Web Design field in which to prepare for an industry certification exam and develop a strategy for gaining that expertise.
13.2   Demonstrate knowledge of secondary/post-secondary transition opportunities.
13.3   Discuss the need for life-long learning and retraining as a result of technological changes in the work environment.

Student Performance Indicators: Evidence Standard is Met

The student:

⬥   Designs a plan of action to achieve individual performance standards in at least one area of specialization.

Sample Performance Task:
⬥   Develop a digital portfolio that demonstrates attainment of important knowledge and skills to showcase professional growth and achievements in Web Design.

Integration/Linkages

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